

## REMARKS

This application has been reviewed in light of the Office Action dated November 20, 2002. Claims 1-27 are pending in this application. Claims 1, 17, 20-23, and 25 have been amended to define still more clearly what Applicants regard as their invention. Applicants note that the changes to Claims 21 and 23 affect matters of form only and do not, in any way, narrow the scope of any of these claims. Claims 1, 17, 20, 22, 25, and 26 are in independent form. Favorable reconsideration is requested.

The Office Action rejected Claims 1-5, 9-17, 20, 22, and 24 under 35 U.S.C. § 102(b) as being anticipated by U.S. Patent No. 4,748,453 (Lin et al.). In addition, the Office Action rejected Claims 25-27 under 35 U.S.C. § 103(a) as being unpatentable over Lin et al. and Claims 6-8, 18, 19, 21, and 23 as unpatentable over Lin et al. in view of U.S. Patent No. 4,593,295 (Matsufuji et al.). Applicants respectfully traverse these rejections.

Applicants submit that independent Claims 1, 17, 20, 22, 25, and 26, together with the remaining claims dependent thereon, are patentably distinct from Lin et al. at least for the following reasons.

The aspect of the present invention set forth in Claim 1 is a print apparatus which forms a color image by applying ink materials of plural colors onto a print medium using a recording means including a plurality of nozzle arrays to eject ink arranged along a predetermined direction. The apparatus includes a scanner and a print controller. The scanner scans the recording means in forward and backward scanning directions along the predetermined direction. The print controller controls printing so that a printing means executes the printing while the scanner scans the recording means in the forward and backward scanning directions. In this apparatus, the print controller applies plural ink materials for each pixel area, the pixel area being an area as a unit to form a primary or

secondary color thereon. Also, at plural positions on a pixel area for forming the secondary color thereon, the print controller forms dots of the secondary color, in ink materials of plural colors for forming the secondary color, during one scan by the scanner. The print controller of the apparatus applies the ink materials of plural colors so that an application order of the dots of the secondary color to be formed at plural positions on the pixel area may be symmetric.

Important features of Claim 1 are that the print controller applies plural ink materials for each pixel area, the pixel area being an area as a unit to form a primary or secondary color thereon, at plural positions on a pixel area for forming the secondary color thereon. The print controller also forms dots of the secondary color during one scan and applies the ink materials of plural colors so that an application order of the dots of the secondary color to be formed at plural positions on the pixel area may be symmetric.

Lin et al., as understood by Applicants, relates to spot deposition for liquid ink printing. In Lin et al., a recording head is scanned in bi-directions for recording so that dots formed by ejecting plural inks to the same position, with a deposition order thereof changed, are disposed in a zig-zag manner. (See, e.g., the specification, at column 4, lines 35-39, which states, “[i]n our sequencing pattern for depositing spots upon a transparency film, at least two passes are required per line. We use the checkerboard deposition pattern shown in FIGS. 5A and 5B for placing only diagonally adjacent spots in a single pass. On a first pass one set of diagonal spots is deposited and on a subsequent pass (in either the reverse or same direction) the complementary set of diagonal spots is deposited.”

However, nothing has been found by Applicants in Lin et al. that teaches or suggests the features of Claim 1 of the print controller, of applying plural ink materials for each pixel area to form a primary or secondary color thereon, forming dots of the secondary color during one scan, and applying the ink materials so that an application order of the dots of

the secondary color may be symmetric.

Accordingly, Applicants submit that at least for the reasons described above, Claim 1 is patentable over Lin et al.

Independent Claims 20 and 25 are method and apparatus claims, respectively, that correspond to apparatus Claim 1, and are believed to be patentable for at least the same reasons as discussed above in connection with Claim 1.

Additionally, independent Claims 17 and 22 include the features of a print controller to control printing by applying plural ink materials for each pixel area, forming a plurality of dots of the *process* color in printing during one scan, and an application order of the ink materials for forming the *process* color may be symmetric, which Applicants submit are not taught or suggested by Lin et al. Moreover, independent Claim 26 is directed to a data buffer configuration of a print apparatus and includes the features of executing printing by applying plural ink materials for each pixel area to form a primary or secondary color thereon, and as to the pixel area forming the secondary color thereon, dots of the secondary color are formed, in ink materials of plural colors, at plural positions on the pixel area to form the secondary color. Applicants submit that these features of Claim 26 are not taught or suggested by Lin et al. Accordingly, at least for these reasons, Claims 17, 22, and 26 are believed to be patentable over Lin et al.

A review of the other art of record, including Matsufuji et al., has failed to reveal anything that, in Applicants' opinion, would remedy the deficiencies of the art discussed above, as applied against the independent claims herein. Therefore, those claims are respectfully submitted to be patentable over the art of record.


The other rejected claims in this application depend from one or another of the independent claims discussed above, and, therefore, are submitted to be patentable for at least the same reasons. Since each dependent claim is also deemed to define an

additional aspect of the invention, individual reconsideration of the patentability of each claim on its own merits is respectfully requested.

In view of the foregoing amendments and remarks, Applicants respectfully request favorable reconsideration and early passage to issue of the present application.

Applicants' undersigned attorney may be reached in our New York Office by telephone at (212) 218-2100. All correspondence should continue to be directed to our address listed below.

Respectfully submitted,

  
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## Amendments in a Revised Format Now Permitted

*Office of Patent Legal Administration << Pre-OG Notices << << Amendments in a Revised Format Now Permitted*

The United States Patent and Trademark Office (USPTO or Office) is permitting applicants to submit amendments in a revised format as set forth herein. The revised amendment format is essentially the same as the amendment format that the Office is considering adopting via a revision to 37 CFR 1.121 (Manner of Making Amendments). The revision to 37 CFR 1.121 (if adopted) will simplify amendment submission and improve file management. The Office plans to adopt such a revision to 37 CFR 1.121 by July of 2003, at which point compliance with revised 37 CFR 1.121 will be mandatory.

The revised amendment format is an expansion of the special amendment process instituted for a prototype Electronic File Wrapper program described in USPTO ANNOUNCES PROTOTYPE OF IMAGE PROCESSING, 1265 Off. Gaz. Pat. Office 87 (Dec. 17, 2002) ("Prototype Announcement"). The special amendment process (which was limited to claims) has proven overwhelmingly acceptable to applicants participating in the prototype and beneficial to examiners. The revised amendment format provides for amendments to be made to the specification and the drawings in addition to the claims.

Effective immediately, **all** applicants, including applicants participating in the prototype, may submit amendments using the revised amendment format set forth herein. Applicants may wish to submit all amendments in the revised amendment format because: (1) it will facilitate transition to a revised amendment format when it becomes mandatory, (2) inconsistent versions of claim amendments (clean and marked-up) will be avoided, and (3) time and resources will be saved.

#### WAIVER of 37 CFR 1.121

The provisions of 37 CFR 1.121(a), (b), (c) and (d) are waived for amendments to the **claims, specification, and drawings** in all applications in all Technology Centers where the amendments comply with the revised amendment format detailed below. Note: The revised amendment format (and the waiver) does **not** apply to 37 CFR 1.121(h) and (i) which indicate that amendments to reissue applications and reexamination proceedings are governed by 37 CFR 1.173 for reissue applications and 37 CFR 1.530 (d)-(k) for *ex parte* and *inter partes* reexaminations.

In addition, the WAIVER indicated in the above mentioned Prototype Announcement for the limited (claims only) amendment process of that prototype is also expressly continued and amendments in applications (other than reissue applications) in all Technology Centers that comply with the requirements in that announcement will be acceptable.

#### REVISED AMENDMENT FORMAT

##### I. Begin Sections on Separate Sheets:

Each section of an amendment paper (e.g., Amendments to the Specification, Amendments to the Claims, Remarks) shall begin on a separate sheet to facilitate separate indexing and electronic scanning of the document.

*For example*, each of the following four sections of an amendment paper must start on a separate sheet:

- a.) Introductory Comments

- b.) Amendments to the Specification
- c.) Amendments to the Claims
- d.) Remarks

## **II. Submit Only One Version (with markings) of an Amended Part:**

The requirement to provide two versions of a replacement paragraph, section, or claim (a clean version and a marked up version), as set forth in current 37 CFR 1.121, is waived where the format set forth below is followed.

## **III. Amendments to the Claims**

### **A. A Complete Listing of Claims is Always Required:**

If an amendment adds, changes or deletes any claim, a detailed listing of all claims that are, or were, in the application, irrespective of whether the claim(s) remains under examination in the application, must be presented, and the amendment to the claims is expressed in the listing. The listing shall be presented as follows:

#### **1. Ascending Order and Status Identifier Required**

The listing shall be provided in sequential ascending numerical order (beginning with claim 1). A status identifier shall be provided for every claim in a parenthetical expression following the claim number (e.g., "Claim 1. (original)"). A list of acceptable status identifiers is set forth in part B, below. The text of **all** claims under examination shall be submitted each time any claim is amended. Cancelled and withdrawn claims should be indicated by only the claim number and status. The text of cancelled or withdrawn claims should not be presented.

#### **2. Markings in Currently Amended Claims Required**

All claims *being currently amended* shall be submitted with markings to indicate the changes that have been made relative to the immediate prior version of the claims. The changes in any amended claim should be shown by strikethrough (for deleted matter) or underlining (for added matter). No separate "clean" version should be submitted for currently amended claims, as this requirement has been eliminated. **Markings should only be made in claims being currently amended in an amendment paper.**

#### **3. Only Clean Text Required for Other Claims Under Examination.**

The text of pending claims *not being currently amended* that are under examination shall be presented in a clean version in the listing. Any claim presented in clean version constitutes an assertion that it has not been changed relative to the immediate prior version.

#### **4. Status to Effect Claim Cancellation or Addition.**

A claim may be cancelled by merely indicating the status of the claim as cancelled. Any new claim added by amendment must be indicated by the appropriate status identifier and shall not be underlined. Thus, added new claims of status (new), (reinstated - formerly claim #\_) and (re-presented - formerly dependent claim #\_) must be presented in clean version. Additional claims may be subject to additional fees, as appropriate.

#### **5. When Grouping of Claims is Permitted.**

Consecutive cancelled or withdrawn claims may be aggregated into one line of the listing (e.g. Claims 1 - 5 (cancelled)).

**6. Use "Currently Amended" Status Where Applicable.**

If any "previously reinstated" or "previously re-presented" claim is being amended, the status shall be indicated as "currently amended" with markings as indicated in paragraph A2, above. Multiple status identifiers should not be used for any single claim.

**B. Status Identifiers that May be Used:**

In order to promote uniformity and consistency, only the following eleven (11) defined status identifiers should be used to indicate the status of the claims (in parentheses after the claim number):

- |  |   |
|--|---|
| 1. (Original):                                     | Claim filed with the application following the specification (i.e., not added by preliminary amendment).    |
| 2. (Currently amended):                            | Claim being amended in the current amendment paper.   |
| 3. (Previously amended):                           | Claim not being currently amended, but which was amended in a previous amendment paper.                     |
| 4. (Cancelled):                                    | Claim cancelled or deleted from the application.  |
| 5. (Withdrawn):                                    | Claim still in the application, but in a non-elected status.  |
| 6. (Previously added):                             | Claim added in an earlier amendment paper.  |
| 7. (New):  | Claim being added in the current amendment paper.   |
| 8. (Reinstated - formerly claim # _):              | Claim deleted in an earlier amendment paper, but re-presented with a new claim number in current amendment. |
| 9. (Previously reinstated):                        | Claim deleted in an earlier amendment and reinstated in an earlier amendment paper.                         |
| 10. (Re-presented - formerly dependent claim # _): | Dependent claim re-presented in independent form in current amendment paper.                                |
| 11. (Previously re-presented):                     | Dependent claim re-presented in independent form in an earlier amendment, but not currently amended.        |

**C. Example of Listing of Claims:**

Claims 1-5 (cancelled)  
 Claim 6 (withdrawn)  
 Claim 7 (previously amended): A bucket with a handle.  
 Claim 8 (currently amended): A bucket with a ~~green~~ blue handle.  
 Claim 9 (withdrawn)  
 Claim 10 (original): A bucket with a wooden handle.  
 Claim 11 (cancelled)

Claim 12 (new): A bucket with plastic sides and bottom.

Claim 13 (previously added): A bucket having a circumferential upper lip.

Claim 14 (re-presented - formerly claim 11): A black bucket with a wooden handle.

#### IV. Amendments to the Specification

Amendments to the specification are to be made by presenting replacement paragraphs, sections or a substitute specification marked up to show changes made relative to the immediate prior version, as set out in 37 CFR 1.121(b). The changes should be shown by strikethrough (for deleted matter) or underlining (for added matter). No accompanying "clean" version shall be supplied. The amendments to the specification shall be presented only one time, and will not appear in successive amendment documents.

#### V. Amendments to the Drawings

Amendments to the drawing figures shall be made by presenting replacement figures which include the desired changes, without markings, and which comply with § 1.84. The changes shall be explained in the accompanying remarks section of the amendment paper. If the amended drawings are not approved, the applicant will be notified in the next Office action. Any amended drawing sheet should include all of the figures appearing on the immediate prior version of the sheet, even though only one figure may be amended. The figure number in the amended drawing should not be labeled as "amended."

For further information on the prototype image electronic processing of patent applications, please contact the Search and Information Resources Administration at: **image.processing@uspto.gov**. Any questions regarding the submission of amendments pursuant to the revised practice set forth in this notice should be directed to Elizabeth Dougherty (**Elizabeth.Dougherty@uspto.gov**), Gena Jones (**Eugenia.Jones@uspto.gov**) or Joe Narcavage (mailto:**Joseph.Narcavage@uspto.gov**). For information on the waiver or legal aspects of the program, please contact Jay Lucas (**Jay.Lucas@uspto.gov**) or Rob Clarke (**Robert.Clarke@uspto.gov**).

Date: 1/31/03

Signed: /s/  
STEPHEN KUNIN  
Deputy Commissioner for Patent  
Examination Policy

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